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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/573,703	05/02/2006	Karl Krug-Kussius		7111

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ALEXANDRIA, VA 22320-4850

EXAMINER

MCCALISTER, WILLIAM M

ART UNIT	PAPER NUMBER
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3753

MAIL DATE	DELIVERY MODE
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04/16/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/573,703	Applicant(s) KRUG-KUSSIUS, KARL	
	Examiner WILLIAM MCCALISTER	Art Unit 3753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-10 and 12-16 is/are rejected.
- 7) ☒ Claim(s) 5 and 11 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5/30/2006</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Objections

1. Claims 13-16 are objected to under 37 CFR 1.75 as being exact duplicates of claim 12. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).
2. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claim 1 recites the limitation "the spring chamber" in lines 3-4. There is insufficient antecedent basis for this limitation in the claim.
5. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear whether the phrase "characterized by a throttle valve means" (of line 4) modifies the pilot-controlled pressure feed valve as a whole, or a component thereof.
6. Claim 1 recites the limitation "the anti-cavitation function" in line 7. There is insufficient antecedent basis for this limitation in the claim.

7. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear as to what the frame of reference should be with respect to the phrase “in the opposite direction” (of line 7).

8. Claim 4 recites the limitation "bypass flow" in line 3. There is insufficient antecedent basis for this limitation in the claim. It is believed this refers to the "flow around said nozzle plate" set forth in the last line of claim 2.

9. Claim 5 recites the limitation "the inner circumference walls" in lines 6-7. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Kawasaki (US Patent 4,289,160).

With regard to claim 1, Kawasaki discloses a pilot-controlled pressure feed valve, comprising a piston (31) of a main stage whereby a connection between an input port (24) and an output port (26) may be controlled open, and the spring chamber (39) of which is adapted to be connected with the input port via a piston bore (38) and with a control oil drain (51) via a pilot control stage

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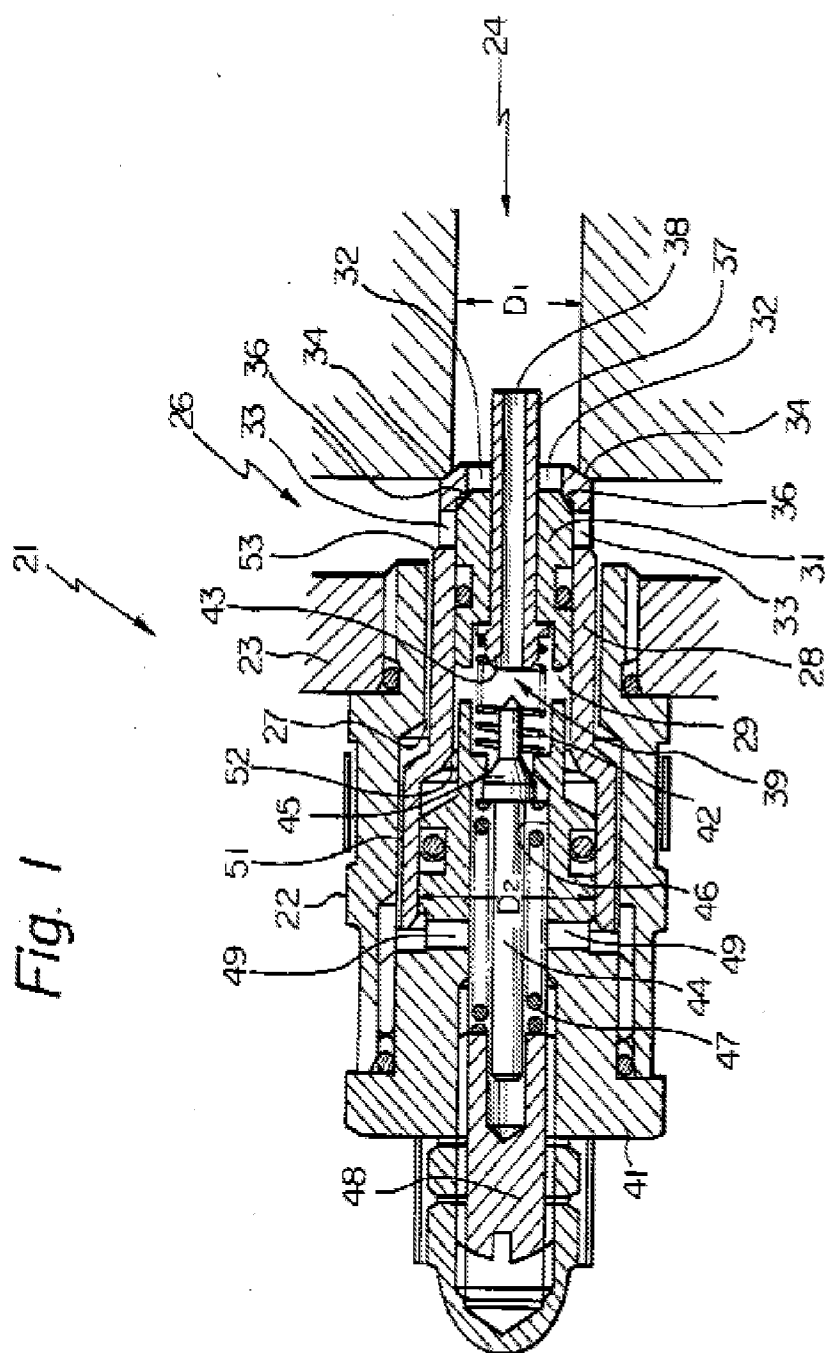
(49), characterized by a throttle valve means (37, 43, 45) which throttles a control oil flow through the piston bore from the input port into the spring chamber in a closed position (broadest reasonable interpretation of “closed position” includes the position in which end 43 of element 37 is approaching element 45), and controls open a comparatively large cross-section of flow in the anti-cavitation function (that position illustrated in FIG 1) in the event of a control oil flow in the opposite direction (although the anti-cavitation function of Kawasaki is performed primarily by the movement of element 28, any void formed in inlet 24 would also be replenished by fluid from the spring chamber).

With regard to claim 7, Kawasaki discloses his device to be capable of use in hydraulic actuator systems (col. 1 lines 6-7), which encompass closed and open hydraulic circuits with fixed and variable displacement pumps. Moreover, there is nothing in the disclosure of Kawasaki to suggest that his device is not usable in a closed or open hydraulic circuit with fixed or variable displacement pumps.

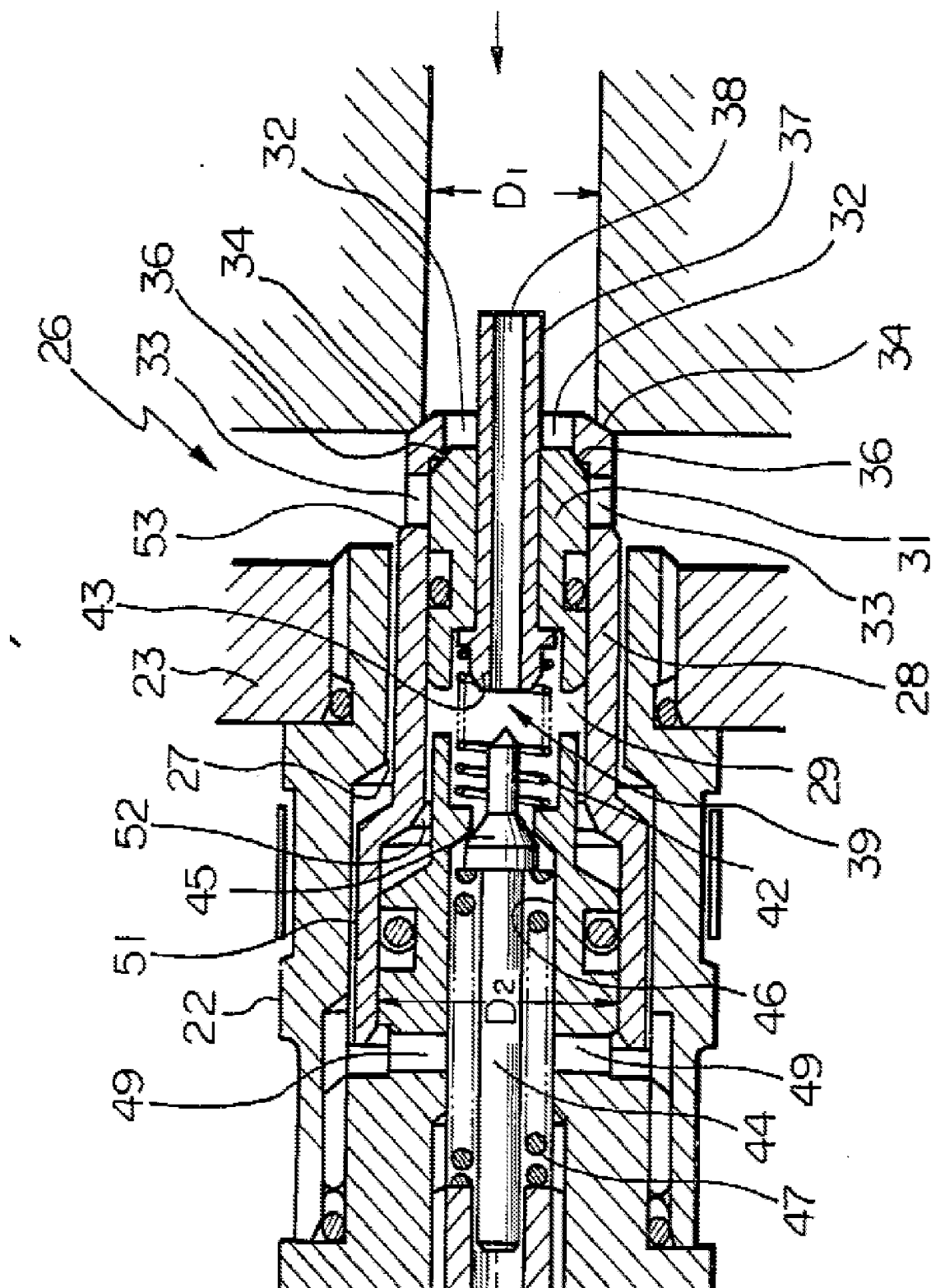
U.S. Patent Sep. 15, 1981

Sheet 1 of 8

4,289,160



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3. Claims 1, 2, 4, 6, 7, 10, and 12-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Adams (US Patent 3,090,398).

With regard to claim 1, Adams discloses a pilot-controlled pressure feed valve, comprising a piston (39) of a main stage whereby a connection between an input port (52) and an output port (51) may be controlled open, and the spring chamber (46) of which is adapted to be connected with the input port via a piston bore (see opening in piston 39 to which plug 43 is attached) and with a control oil drain (109) via a pilot control stage (12), characterized by a throttle valve means (72) which throttles a control oil flow through the piston bore from the input port into the spring chamber in a closed position (see column 6 lines 33-46), and controls open a comparatively large cross-section of flow (not restricted by the size of bore 83) in the anti-cavitation function in the event of a control oil flow in the opposite direction (see column 5 lines 20-24 and lines 70-74).

With regard to claim 2, Adams discloses the throttle valve means to be a throttle check valve having a nozzle plate (78) which is penetrated by a nozzle bore (83) having a smaller diameter than the piston bore, and which is adapted to be taken with an end face thereof into contact with a nozzle plate seat (41), wherein the nozzle bore may be passed by in a condition where the nozzle plate is raised from the nozzle plate seat by a flow around said nozzle plate (during the anti-cavitation function of the analysis in claim 1, see column 5 lines 20-24 and lines 70-74).

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With regard to claim 4, Adams discloses the nozzle plate to have at the circumference flattenings which delimit a cross-section of bypass flow (distal circumference of element 72 restricts flow through channel 17).

With regard to claims 6 and 10, Adams discloses the throttle check valve to be inserted into a valve chamber (that area generally surrounding elements 41 and 78) of the piston bore (18) into which a seat sleeve (41) forming the nozzle plate valve seat is inserted.

With regard to claims 7 and 12-16, Adams explicitly discloses his device to be capable of use in a closed loop hydraulic actuator system (col. 1 lines 43-47). It would have been obvious to use fixed or variable displacement pump(s) in a system using the Kawasaki valve as such pumps are notoriously well known as a source of pressure for circuits of the type using the Kawasaki valve.

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1, 1963

C. E. ADAMS

3,090,398

DUAL DIRECTION RELIEF OR SEQUENCE TYPE VALVE

Filed Feb. 5, 1962

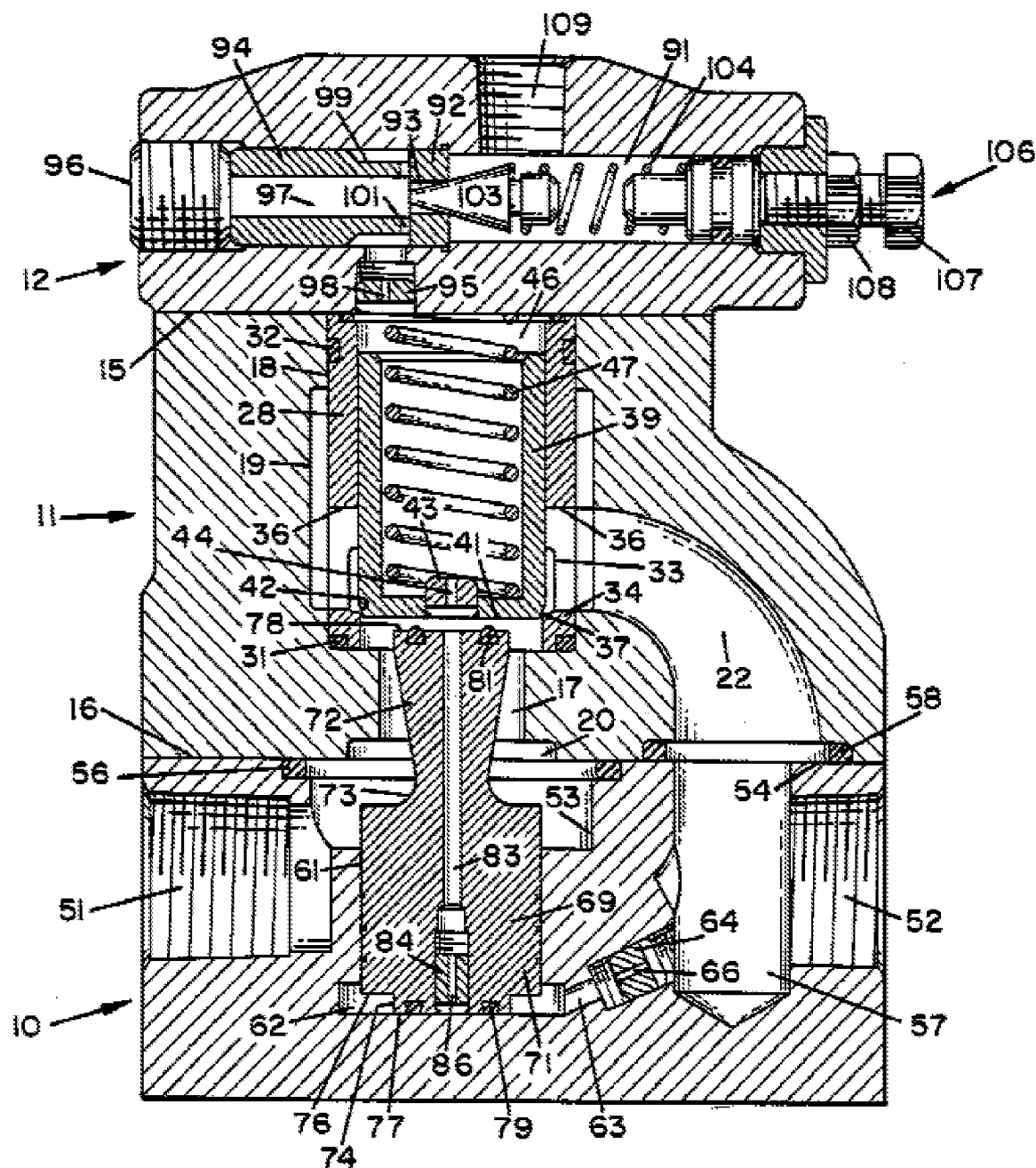


FIG. 1

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
6. Claims 3, 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adams.

With regard to claim 3, Adams discloses the invention as claimed except for the relative size of the nozzle and piston bores. It would have been obvious to one of ordinary skill in the art at the time of invention to form the nozzle bore so that its diameter is equal to or less than half the diameter of the piston bore, since it has been held that discovering an optimum value of a result effective variable (see col. 7 lines 15-24, showing this parameter to be result-effective) involves only routine skill in the art. *In re Boesch*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980).

With regard to claim 8, see analysis of claim 4, above.

With regard to claim 9, see analysis of claim 6, above.

Allowable Subject Matter

7. Claims 5 and 11 are objected to as being dependent upon a rejected base claim, but may be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to WILLIAM MCCALISTER whose telephone number is (571)270-1869. The examiner can normally be reached on M-R, 8-7.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Huson can be reached on 571-272-4887. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

William McCalister
Patent Examiner

/Stephen M. Hepperle/
Primary Examiner, Art Unit 3753

WMM
4/8/2007